

REMARKS

The Examiner is thanked for the thorough examination of the present application and the withdrawal of the previous rejections. The Office Action, however, continued to reject all claims 1-16. In response thereto, Applicants have amended the independent claims 1 and 9.

The Office Action objected to claim 9 for noted informalities. In response, Applicant has amended claim 9 in accordance with the Examiner's recommendations.

On a substantive basis, claims 1, 2, 4, 5, 7-10, 12, 13, 15, and 16 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Isley (US 5,930,295) in view of Robinson (US 5,943,290), Joshi (US 5,650,754), and Dent (US 7,133,647). Applicant respectfully requests reconsideration of the rejections for at least the following reasons.

Independent claim 1 recites:

1. A method of minimizing a circuit element interference and stabilizing a performance of a circuit element within a Time Division Duplex (TDD) transceiver, which comprises:
 - providing a medium for a communication signal propagating back and forth through the medium;
 - constructing an analog circuit for receiving and transmitting the communication signal through the medium at a time, and for modulating and demodulating the communication signal during a communication signal receiving and transmitting process;
 - constructing a digital circuit for digital signal processing;
 - constructing an analog-to-digital (A/D) interface and a digital-to-analog (D/A) interface so that the interfaces couples the analog circuit and the digital circuit together;
 - providing a first ground reference so that all ground references of circuit elements in the analog circuit, in the A/D interface, and in the D/A interface are connected to the first ground reference;

providing a second ground reference so that all ground references of circuit elements in the digital circuit are grounded to the second ground reference;

providing a joint clock source for supplying clock pulses to the analog circuit, the digital circuit, the A/D interface, and the D/A interface, wherein the joint clock source has a ground reference directly connecting to the first ground reference and without directly connecting to the second ground reference.

(*Emphasis added*). Claim 1 patently defines over the cited art for at least the reason that the cited art fails to disclose the features emphasized above.

In forming the rejection, the Office Action applies Robinson as allegedly disclosing the joint clock source of the claim 1. In this regard, the Office Action alleged that "Robinson discloses an integrated circuit with a joint clock source that provides signals to an analog circuit (12) and a digital circuit (14)..." However, there is no allegation in the Office Action that discloses a "joint clock source for supplying clock pulses to ... ***the D/A interface.***" For at least this reason, even if all four cited references could be selectively combined in the manner alleged by the Office Action, the resulting combination still does not disclose all features and therefore does not render claim 1 unpatentable. For at least this reason, the rejection should be withdrawn.

In addition, Applicant believes that the Office Action may have taken certain statements from the Joshi and Dent references out of context. In this regard, the Office Action equated the VCO to the joint clock source as defined in the claimed embodiments. The Office Action alleged that "Joshi et al. discloses connecting a VCO to an analog ground with separate grounding for other components (See Figure 4 and column 7, line 60 – column 8, line 8)." The Office Action also alleged that Dent teaches that VCOs are crystal oscillators. However, the accurate crystal reference oscillator as

described by Dent is different than the joint clock source as claimed in the presented application. It's quite clear that the VCO 340 as shown in the Fig.3 of the present application is different and distinct from crystal oscillator 350 (joint clock source) as the claimed embodiments. In paragraph [0008] of the present application, Applicant even indicates that a joint clock source is provided for simultaneously supplying clock pulses to the analog circuit, the digital circuit, and the A/D and D/A interface circuit, and a ground reference of the joint clock source is connected to the first ground reference.

Simply stated, the VCO described by Dent does not perform all of functions described above. Furthermore, the advantage of the claimed embodiments is that, a joint clock coupling architecture that greatly reduces the circuit coupling architecture that greatly reduces the circuit element interference, and stabilizes a performance of each circuit element in the TDD transceiver.

For the reasons stated above, it is Applicant's belief that Isley, Jr. et al., in view of Robinson et al., Joshi et al. and Dent do not teach or suggest the claimed features that *"the joint clock for supplying clock pulses to the analog circuit, the digital circuit, the A/D interface, and the D/A interface, wherein the joint clock source has a ground reference directly connecting to the first ground reference and without directly connecting to the second ground reference,"* as recited in the claim 1. A similarly defining feature is defined in claim 9. For at least these reasons, independent claims 1 and 9 define over the rejections. As all remaining claims depend from either claim 1 or claim 9, all rejections should be withdrawn.

As a separate and independent basis for the patentability of all claims, Applicant submits that the selective combination of the four cited references is improper. In this regard, the Office Action combined the references on the solely expressed bases that:

- “it would have been obvious ... to combine ... Robinson with Isley ... in order to reduce the size of the transceiver while minimizing the noise between the digital and analog portions of the integrated transceiver circuit”; and
- “it would have been obvious ... to connect the crystal oscillator of Robinson to the analog ground [of Joshi] in order to minimize noise”.

These rationales are both incomplete and improper in view of the established standards for rejections under 35 U.S.C. § 103.

In this regard, the MPEP section 2141 states:

Office policy has consistently been to follow Graham v. John Deere Co. in the consideration and determination of obviousness under 35 U.S.C. 103. As quoted above, the four factual inquires enunciated therein as a background for determining obviousness are briefly as follows:

- (A) Determining of the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

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BASIC CONSIDERATIONS WHICH APPLY TO OBVIOUSNESS REJECTIONS

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

The foregoing approach to obviousness determinations was recently confirmed by the United States Supreme Court decision in *KSR INTERNATIONAL CO. V. TELEFLEX INC. ET AL.* 550 U.S. ____ (2007)(No. 04-1350, slip opinion, p. 2), where the Court stated:

In *Graham v. John Deere Co. of Kansas City*, 383 U. S. 1 (1966), the Court set out a framework for applying the statutory language of §103, language itself based on the logic of the earlier decision in *Hotchkiss v. Greenwood*, 11 How. 248 (1851), and its progeny. See 383 U. S., at 15–17. The analysis is objective:

“Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Id.*, at 17–18.

Simply stated, the Office Action has failed to at least (1) ascertain the differences between and prior art and the claims in issue; and (2) resolve the level of ordinary skill in the art. Furthermore, the alleged rationale for combining the references embodies clear and improper hindsight rationale. In addition, the Office Action did not provide any stated rationale for the further combination of Dent with the other three references. For at least these additional reasons, Applicant submits that the rejections of all claims are improper and should be withdrawn.

In view of the foregoing remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of claims 1-16.

CONCLUSION

This application is now in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

No fee is believed to be due in connection with this submission. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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